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EXAMINER

AHMED, SAMIR ANWAR

ART UNIT

PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/367630

Applicant(s)

Saito et al.

Examiner

S. Ahmed

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/30/02
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-17, 19-24, 31-40, 42-49 is/are pending in the application.
- 4a) Of the above, claim(s) 32, 33, 36, 37 & 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-17, 19-24, 31, 34-35, 38-39 & 42-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. The amendment filed 8/20/02 have been entered and made of record.
2. Applicant's election with traverse of Group I (claims 11-17, 19-24, 31, 34-35, 38-39, and 42-49) in Paper No. 16 is acknowledged. The traversal is on the ground(s) that there must be a serious burden on the Examiner if restriction is required and that claims 32 and 36 (Group II) have been present in the application in dependent form (depending from claims 11 and 19 respectively) before the restriction, same for claims 33, and 37 (Group III), same for claim 40 (Group IV) and claims of Group I has been present in the claims of the application since the November 2001 amendment. This is not found persuasive because: Firstly, the inventions of Group I (claims 11-17, 19-24, 31, 34-35, 38-39, and 42-49), Group II (claims 32, 36), Group III (claims 33, 37) and Group IV (claim 40) are independent and distinct from each other as shown by their claimed limitations. Secondly, Group I includes a Markush Group (claims 11-15, 17, 19-21, 23-24, 31, 34-35, 38-39, 42-45) and a new dependent claims Group (claims 46-49) which have been introduced in the application since the August 2002 amendment and have not been present in the application since the November 2001 amendment. Thirdly, the members of the Markush group are sufficiently large in number and are not closely related and the search and examination of such Group with the rest of the other groups cannot be made without serious burden (See MPEP 803.02). Fourthly, claims 32 and 36 (Group II), claims 33, and 37 (Group III), and claim 40 (Group IV) which have been introduced in an independent form in the application since the August 2002 amendment are different from claims 32 and 36 (Group II), claims 33, and 37 (Group III), and claim 40 (Group IV) which have been introduced in a

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dependent form in the application since the November 2001 amendment for the following reasons:

Independent claims 32 and 36 (Group II) introduced by the August 2002 amendment recite “a plurality of semiconductor memory devices for storing registered fingerprint data”; and “a plurality of processors in communication with said plurality of semiconductor memory devices, said plurality of processors being configured to determine in parallel by electronic processing”. While dependent claims 32 and 36 been present in the application before the August 2002 amendment recite “a semiconductor memory device for storing registered fingerprint data”; “further comprising a plurality of said processors and a plurality of said semiconductor memory devices”. It is clear that dependent claims 32 and 36 never recited that the plurality of processors in communication with said plurality of semiconductor memory.

Independent claims 33 and 37 (Group III) introduced by the August 2002 amendment recite “said processor being further configured to make negative fingerprint match determination if said fingerprint data created from the fingerprint pattern detected by said sensor” which is different from dependent claims 33 and 37 been present in the application before the August 2002 amendment which recite “said processor being further configured to make negative fingerprint match determination if said sensed fingerprint data”.

Independent claim 40 (Group IV) introduced by the August 2002 amendment includes only a portion of claim 41 limitations been present in the application before the August 2002 amendment and includes a portable key unit limitation that is added by the August 2002

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amendment which makes the combination of the new Independent claim 40 requires new search and consideration.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 32-33, 36-37 and 40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention. Applicant timely traversed the restriction (election) requirement in Paper No. 16.
4. In response to Applicant's amendment filed 8/20/02 the rejection to claim 20 under 35 U.S.C. 112, first paragraph is withdrawn.
5. Figs. 30(a), 30(b) and 30(e) have been approved by the Examiner and entered.
6. Figs. 30(c), 30(d), 30(f) and 47 have not been approved by the Examiner and are not entered because *they constitute new matter and are not supported by the originally-filed application* as set forth below.

Figure 30(c):

Applicant has cited for support the passage from page 51, lines 7-14 which shows a first modification of original Fig. 30 and resulted in modified Fig. 30(b) and then used the passage from page 51, lines 14-19 to further modify the modified Fig. 30(b) to result in Fig. 30(c). The passage from page 51, lines 14-19 states "The system can also be set up in a way", which refers to the original system shown in Fig. 30 which exists in the original specification. By using the passage from page 51, lines 14-19 to modify original Fig. 30, the fingerprint code registration program 19 that exists in the flash memory 11 of the K card is moved to the receiving unit (page

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51, lines 17-19) and the result is a system with EEPROM 14 on both the K card and the receiving unit, fingerprint code preparation program 17, fingerprint matching program 18 on the K card and fingerprint code registration program 19 on the receiving unit. Fig. 30© have to show EEPROM 14 on both the K card and the receiving unit because there is no disclosure or suggestion in the passage from page 51, lines 14-19 to remove the EEPROM 14 from the K card and it is clear that the intended system for the modification is the original system of Fig. 30. Furthermore while Applicant has used the passage from page 51, lines 14-19 to further modify the system that is resulted from modifying original Fig. 30 using the passage from page 51, lines 7-14 and not modifying original Figure 30, the Applicant has used the passage from page 51, lines 20-25 which also states "The system can also be set up in such a way" (same as stated by the passage from page 51, lines 14-19) to modify the original Fig. 30 which resulted in modified Fig. 3(e). In case of Fig. 30(e) Applicant modified original Fig. 30 and did not modify Fig. 30(b) as he did for Fig. 30(c), Applicant cannot selectively modifying the Figures, any modification should be for original Fig. 30 because the specification as originally filed is disclosing some possible modifications to original Fig. 30 and there is no suggestion for otherwise.

Figure 30(d):

Applicant has cited for support the passage from page 52, lines 1-2 which states " the sensor unit A can be on the K or otherwise". While it is true that for any of the three modifications recited on page 51 [the passage from page 51, lines 7-14 (first modification), the passage from page 51, lines 14-19 (second modification), the passage from page 51, lines 20-25

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(third modification) the sensor can be either on the K card or on the receiving unit, it is not clear which one of the above three modifications is used with it's sensor moved from the K card to the receiving unit. Fig. 30(d) does not look like any of the Fig. 30(b) or 30© or 30(e). Fig. 30(d) should be similar to either Fig. 30(b) or corrected 30© disclosed above by the Examiner or 30(e) with it's sensor moved to the receiving unit. Applicant states that with the sensor being separated from the portable key unit K, the processing used for fingerprint encoding need not to be present in the portable key unit. The examiner disagrees. The originally filed specification does disclose or suggest such modification. Applicant has to show where this is disclosed in the originally filed specification.

Figure 30(f):

Applicant states that fig. 30(f) is an embodiment similar to that of Fig. 30(e) and has cited for support the passage from page 51, lines 20-25 and the passage from page 52, lines 1-2. Fig. 30 (f) does not look like Fig. 30(e) at all. Fig. 30(e) has the EEPROM 14, fingerprint code preparation program 17, fingerprint code registration program 19 on the K card and fingerprint matching program 18 on the receiving unit while Fig. 30(f) has the EEPROM 14, fingerprint code registration program 19 on the K card, fingerprint code preparation program 17, and fingerprint matching program 18 on the receiving unit. There is no disclosure or suggestion in the cited passages that fingerprint code preparation program 17 is moved to the receiving unit. Fig. 30(f) should be similar to Fig. 30(e) with the sensor A moved to the receiving end.

Figure 47:

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Applicant has cited for support the passage from page 18, line 25-page 19, line 8 which merely recites that in case of more than one matching circuit B is used, the system is set up so that the offered fingerprint pattern is fed for verification to each of the matching circuits B. There is nothing in this passage to disclose or suggest any specific structure or connection for the matching circuits nor that the matching circuits B are connected in parallel. Feeding the offered fingerprint pattern for verification to each of the matching circuits B does not mean or necessarily require a parallel connection because feeding the offered fingerprint pattern for verification to each of the matching circuits B can be realized either by a parallel connection or a pipeline connection. Because the specification does not specify any specific connection to realize this type of feed and because there is more than one connection that can satisfy this type of feed, the specification as originally filed does not disclose suggest or support a parallel connection for the matching circuits and applicant cannot claim any type of connection that is more specific than what was originally disclosed by the original disclosure.

7. Applicant's arguments filed 8/20/02 have been fully considered but they are not persuasive with regard to claims 11, 12, 15, 19, 26 and 31 for the following reasons:

As to claim 11, and 19, the Applicant alleges that "the claimed invention is a portable key unit that may take any of 5 forms [,]" (page 10, line 24-page 11, line 4). Firstly, claims 11 and 19 are a Markush claim (see MPEP 2173.05(h)), the Examiner needs only to meet one member of the group in order to satisfy requirements under 102/103 rejection. Secondly, Bowker discloses that his analyzer 96 is used for other apparatus, facilities, financial services and

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information services such as cellular phones and so called "notebook" computers (portable devices where the analyzer 96 will be separated from the control unit 97) (col. 24, lines 50-66) and including an identification card (portable key) carried by the user (col. 22, line 66-col. 23, line 1-2), as shown in Fig. 12, the analyzer 96 includes sensor, memory, CPU, power source and is communicating with the control unit 97 to control the locking mechanism 99]. Thirdly, The Applicant is respectfully reminded that the rejection of the claim(s) is a combination of two references not just Tamori, references cannot be argued individually to show nonobviousness (see MPEP 2145 (d)). The main reference "Bowker" discloses a portable key unit separated from the control unit as explained above.

As for portable key unit configuration (1), claims 12 and 31, refer to the arguments set forth above in connection with claims 11 and 19.

As to claim 16, and 22, the Applicant alleges that "No statements is discernable as to what tasks are performed by the card control part 3[,]" (page 12, lines 5-18). The Examiner disagrees. The examiner has explained in the Office Action mailed 2/12/02 paper number 11 on page 13, in details that "a card control section 3 (first processor) that stores fingerprints detected by the sensor in, and retrieves fingerprints from storage device 2" based on an English Abstract and an oral Japanese translation by a translator at the Office and provided the Applicant with the Japanese Patent, with English headings on the Figure parts. Furthermore this reference is an ID provided by the Applicant on 3/9/00. It is clear that card control section 3 stores the fingerprints detected by the sensor in a memory 2 that stores the registered fingerprint, and that card control

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section 3, is a registration processor, as shown by the English headings on the Figure parts of the Japanese patent provided by the Examiner to the Applicant.

Applicant has mentioned claim 50 on three separate lines on page 11, there is no claim 50 pending in the Application.

8. Applicant has amended independent claims 11, 19 in a Markush form, and added new dependent claims 43-49. Applicant did not previously claim these features in the combination as now claimed. Applicant's arguments filed 8/20/02, with regard to claims 15, 17, 20, 21, 42-49 have been fully considered but they are moot in view of the new grounds of rejection.

9. The amendment filed 8/20/02 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Figs. 30(c), 30(d), 30(f) and 47 and the amendment to the specification on page 3, lines 1-6 of that amendment.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 11-15, 17, 34, 35, 42, 43, 19-21, 31, 23-24, 38-39, 44-46, and 48 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the

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specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 11, recites "said portable key unit comprises one of the group of: (2) said sensor and said processor but not said semiconductor memory device and not said control unit", lines 16-17, (3) said processor but not said sensor not said semiconductor memory device and not said control unit", lines 17-19. There is no disclosure in the specification as originally filed of a portable key unit comprises a matching processor but not sensor but not semiconductor memory device and not control unit. There is no disclosure in the specification as originally filed of a portable key unit comprises a sensor and a matching processor but not semiconductor memory device and not control unit nor a portable key unit comprises a matching processor but not sensor but not semiconductor memory device and not control unit.

As to claim 19 refer to claim 11 rejection.

Claim 15, recites "said portable key unit comprises said processor but not said sensor not said semiconductor memory device and not said control unit", lines 1-3. There is no disclosure in the specification as originally filed of a portable key unit comprises a matching processor but not sensor but not semiconductor memory device and not control unit.

As to claim 45 refer to claim 15 rejection.

Claim 17, recites "said portable key unit comprises said sensor and said processor but not said semiconductor memory device and not said control unit", lines 1-3. There is no disclosure in

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the specification as originally filed of a portable key unit comprises a sensor and a matching processor but not semiconductor memory device and not control unit.

As to claim 21 refer to claim 17 rejection.

Claim 46, recites "said portable key unit comprises said first processor and said sensor but not said second processor", lines 1-2. There is no disclosure in the specification as originally filed of a portable key unit comprises a matching processor (first processor) and said sensor but not registration processor (second processor).

As to claim 48 refer to claim 46 rejection.

Drawings

12. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "limitations in claims 11, 19, 15, 17, 21, 45-46, 48" (refer to paragraph 11) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 11-12, 14, 19, 31, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowker et al (U.S. Patent 5,963,657) in view of Tamori (U.S. Patent 5,503,029).

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claims 11 and 19 are a Markush claim (see MPEP 2173.05(h)), the Examiner needs only to meet one member of the group in order to satisfy requirements under 102/103 rejection.

As to claim 11, Bowker disclose a locking device (see Fig. 7) comprising:

- (a) a locking mechanism for locking and unlocking movement of an object to be unlocked [solenoid drive 999 for locking and unlocking movement of door 960 (col. 23, lines 8-9, and 20-22, Fig. 7, items 999, 960)] ;
- (b) a fingerprint sensor for detecting a fingerprint pattern (col. 23, lines 37-42);
- © a semiconductor memory device for storing registered fingerprint data [EPROM 507 stores authorized-user fingerprint templates (col. 22, lines 50-52, Fig. 6, item 507), the EPROM as shown in Figs 22 and 23-2 is a an IC (integrated circuit) chip which is conventionally made of silicon (semiconductor)];
- (d) a processor configured to determine by electronic processing whether the fingerprint data created from the Fingerprint pattern detected by said fingerprint sensor matches with any of the registered fingerprint data stored in said semiconductor memory device (col. 22, lines 50-55);
- (e) a control unit for controlling whether said locking mechanism locks or unlocks movement of said object in response to said fingerprint match determination by said processor (col. 22, lines 58-61, col. 23, lines 37-46); and
- (f) a portable key unit separated from said locking mechanism, said portable key unit comprises one of the group of: (1) said sensor, said processor, and said semiconductor memory

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device but not said control unit [Bowker discloses that his analyzer 96 is used for other apparatus, facilities, financial services and information services such as cellular phones and so called "notebook" computers (portable devices where the analyzer 96 will be separated from the control unit 97) (col. 24, lines 50-66) including an identification card (portable key) carried by the user (col. 22, line 66-col. 23, line 1-2), as shown in Fig. 12, the analyzer 96 includes sensor, memory, CPU, and power source].

Bowker does not disclose that the fingerprint sensor is a pressure-based fingerprint sensor comprising at least a portion of a plurality of ridges and a plurality of valleys of a finger in both an x direction and a y-direction when said finger is pressed against said sensor. Tamori discloses an inexpensive surface pressure panel capable of detecting the variations in the pressure due to surface variations (ridges and grooves) of a fingerprint. The pressure sensor is an active matrix type array of having first and second (X and Y) groups of electrodes (col. 2, lines 11-25, col. 4, line 37-col. 5, line 15, Fig. 4). One skilled in the art would have clearly recognized that the optical fingerprint sensor of Bowker's device would have been bulky, expensive and sensitive to the effects of greasiness of the fingertip, moisture (sweat or the like) that would have compromised the accuracy of the detected fingerprint. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used a pressure-based fingerprint sensor that detects a plurality of ridges and a plurality of valleys of a finger in both an x direction and a y-direction when a finger is pressed against the sensor in Bowker's device as taught by Tamori in order to achieve a compact, inexpensive surface pressure

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fingerprint sensor that is capable of accurately detecting the user's fingerprint (col. 2, lines 32-37) and is not susceptible to the effects of greasiness of the fingertip, moisture (sweat or the like) compared to other conventional fingerprint sensors.

As to claim 12, Bowker further discloses wherein said portable key unit comprises said sensor, said processor, and said semiconductor memory device but not said control unit [Bowker discloses that his analyzer 96 is used for other apparatus, facilities, financial services and information services such as cellular phones and so called "notebook" computers (portable devices where the analyzer 96 will be separated from the control unit 97) (col. 24, lines 50-66), including an identification card (portable key) carried by the user (col. 22, line 66-col. 23, line 1-2), as shown in Fig. 12, the analyzer 96 includes sensor, memory, CPU, and power source].

As to claim 14, Bowker further discloses wherein said portable key unit is a card (col. 22, line 66-col. 23, line 1-2)

As to claim 19, refer to claim 11 rejection for their common features. Bowker further discloses a switching device comprising:

(a) a switch for starting operation of an object [internal relay 519 provides a switch closure to an external relay that provides access to utilization means (door) (Col. 22, lines 58-61, col. 24, lines 39-49, Fig. 12, item 97)];

(e) a processor to (2) actuate said starting switch in response to said fingerprint match determination being positive (col. 24, lines 39-49, Fig. 12, item 94).

As to claim 31, refer to claim 12 rejection.

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As to claim 24, refer to claim 14 rejection.

15. Claims 13, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowker et al (U.S. Patent 5,963,657) in view of Tamori (U.S. Patent 5,503,029) as applied to claims 12 and 31 above and further in view of Gullman et al. (U.S. Patent 5,280,527).

As to claim 13, Neither Bowker nor Tamori discloses, wherein said portable key unit is configured to communicate with said control unit via at least one electrical connector .

Gullman discloses a security apparatus (IC card) 14 including a processing unit, memory and a fingerprint sensor, upon entry of the cardholder's fingerprint information, the processor executes the verification algorithm (col.2, lines 48-55, Fig. 1, item 14, Fig. 2, processor 33). Security safeguards for accessing a host system 10 [which may be any electronic system, such as electronic gate for accessing a secured area (col. 2, line 66- col. 3, line 2)] are provided by an access device 12 and the ID card 14. Access device 12 communicates with the host system (electronic gate for accessing a secured area) to verify authorized personnel and transfer information. Access device 12 may be an electronic lock restricting access to a secured area. The IC card 14 adds another level of security to the access process. The token output from the IC card is transmitted directly to the host system (electronic gate) through a direct data communication line (col. 2, lines 62-65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Gullman's teachings to modify the combined device of Bowker and Tamori by using an IC card (portable key unit) that is connected electrically through

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a connector (direct data communication line) to the switching device in order to add another level of security to the access process and eliminate the need for the user to memorize a code or carry a printed memorandum of the code.

As to claim 23, refer to claim 13 rejection.

16. Claims 16, 22, 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowker et al (U.S. Patent 5,963,657) in view of Tamori (U.S. Patent 5,503,029) as applied to claims 11 and 19 above and further in view of Masafumi Kinoshita et al. (Japanese Kokai Patent Application No. Hie 5-233896).

As to claim 16, refer to claim 11 rejection for their common features. The CPU (processor) in Bowker is a matching processor (first processor) and Bowker further discloses, a portable key unit separated from said locking mechanism, said portable key unit comprises said first processor and said sensor but not said second processor [analyzer 96 is used for other apparatus, facilities, financial services and information services such as cellular phones and so called "notebook" computers (portable devices where the analyzer 96 will be separated from the control unit 97) (col. 24, lines 50-66), including an identification card (portable key) carried by the user (col. 22, line 66-col. 23, line 1-2), as shown in Fig. 12, the analyzer 96 includes sensor, memory, CPU (matching or first processor), and power source]. Neither Bowker nor Tamori discloses, a second processor in communication with said first processor and said semiconductor memory device, said second processor being configured to register an authorized

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person by storing in said semiconductor memory device fingerprint data created from said fingerprint pattern of said authorized person and detected by said sensor.

Kinoshita discloses an entry and exit control device that manages the closing and opening of a door by comparing the characteristic information (fingerprint) of a user against a recorded fingerprint characteristic information. The system comprises a portable ID card 8, which includes a fingerprint sensor 1, a fingerprint storage device (memory) 2, a card control section 3 that stores fingerprints detected by the sensor in, and retrieves fingerprints from storage device (registration or second processor), a card communication section 5, power supply 6. An entry and exit management unit 15, that manages a door opening and closing section 13 (a door lock), unit 15 includes a communication section 5 in communication with card communication section 5, a finger print management section 10 (storage device) that records the fingerprints, management control section 11 (matching or second processor) that compares the characteristic information (fingerprint) of a user against a recorded fingerprint characteristic information of users for entry and exit and sends a door opening and closing command to the door opening and closing section 13 (a door lock) (see Fig 1). As shown in the fig., there is two processors communicating with each other one is on the card (registration processor) and the other is on the locking device (matching processor). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Kinoshita's teachings to modify the combined device of Bowker and Tamori by using a first (matching) and a second (registration) processor communicating with each other one is on the card and the other is on the locking device in order

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to improve security for controlled entry and exit from certain facilities by recognizing persons entering or leaving on the basis of reading fingerprints, and realizes a high degree of security by controlling and closing of the doors of the facilities.

As to claim 22 refer to claim 16 rejection.

As to claim 46, Bowker further discloses, wherein said portable key unit comprises said first processor and said sensor but not said second processor [analyzer 96 is used for other apparatus, facilities, financial services and information services such as cellular phones and so called "notebook" computers (portable devices where the analyzer 96 will be separated from the control unit 97) (col. 24, lines 50-66), including an identification card (portable key) carried by the user (col. 22, line 66-col. 23, line 1-2), as shown in Fig. 12, the analyzer 96 includes sensor, memory, CPU (matching or first processor), and power source].

As to claim 47, Kinoshita further discloses, wherein said portable key unit comprises said second processor and said sensor but not said first processor [a portable ID card 8, which includes a fingerprint sensor 1, a fingerprint storage device (memory) 2, a card control section 3 that stores fingerprints detected by the sensor in, and retrieves fingerprints from storage device (registration or second processor) (Fig. 1)].

As to claim 48 refer to claim 46 rejection.

As to claim 49 refer to claim 47 rejection.

17. Claims 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowker et al (U.S. Patent 5,963,657) in view of Tamori (U.S. Patent 5,503,029) as applied to claims 11

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and 19 above and further in view of Katsumi Nagaki et al. [(Japanese Tokkyo Kokai Koho) Patent Application No. 7-14048].

As to claim 17, neither Bowker nor Tamori discloses, wherein said portable key unit comprises said sensor, and said processor, but not said semiconductor memory device and not control unit.

Katsumi discloses an electric locking device that locks and unlocks a lock by an installed circuit for personal data of a key owner and by analyzing the data by use of a judging circuit in the lock. Key (portable device) 1 comprises fingerprint image input circuit 6 (CCD element, i.e. sensor) (Fig. 2). The lock comprises a digital controller, a judging circuit connected to the digital controller, data memory and unlocking device for the lock. The judging circuit (matching processor) compares the user's fingerprint with registered data in the data memory, and if it matches the preregistered data, it sends the unlock signal to the unlocking device of the lock (see Fig. 3). Besides the aforementioned embodiment example, a judging circuit (matching processor) may be built in key 1 (i.e., the key has only a sensor and matching processor). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Katsumi's teachings to modify the combined device of Bowker and Tamori by using a key comprises a fingerprint sensor and a built in judging circuit (matching processor) in order to improve security for controlled entry and exit from certain facilities by judging the user by the key (the key judges the user) and unlock the door only for the one who is related to the key. The

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key with it's sensor and electronic judging circuit (matching processor) can be easily carried around and if it is lost, nobody else can use or retrieve any data from it which is advantageous.

As to claim 21 refer to claim 17 rejection.

18. Claims 42 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowker et al (U.S. Patent 5,963,657) in view of Tamori (U.S. Patent 5,503,029) as applied to claims 11 and 19 above and further in view of Stock et al. (U.S. Patent 6,011,858).

As to claim 42, neither Bowker nor Tamori discloses, wherein said portable key unit comprises said semiconductor memory device but not said sensor, and not said processor.

Stock discloses a programmable memory smart card 20, the memory stores a biometric template data of a physical characteristic of the user, such as fingerprint data and is used for controlling access to an application. The memory card 20 includes a processor 22 for processing the personal information of the user so that this information can be written to the memory card (registration processor), i.e. processor 22 is a registration processor and not a matching processor and memory card (portable key) carries a memory and not a sensor and not a matching processor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Stock's teachings to modify the combined device of Bowker and Tamori by using a portable key comprises said semiconductor memory device but not said sensor, and not said processor in order to improve security for controlled access to a specific application by recognizing persons trying to gain access to the application on the basis of reading fingerprints, and realizes a high degree of security by controlling access to applications in real time.

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As to claim 20 refer to claim 42 rejection.

19. Claims 34, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowker et al (U.S. Patent 5,963,657) in view of Tamori (U.S. Patent 5,503,029) as applied to claims 11 and 19 above and further in view of Moses et al. (U.S. Patent 5,503,029).

As to claim 34, Neither Bowker nor Tamori discloses, wherein said processor is further configured to store said sensed fingerprint pattern in said semiconductor memory device in response to said fingerprint match determination being negative.

Moses discloses a security system that controls access from one area to another by reading data on an identification card entered into a reader and measuring the physical characteristics (biometric) of each person passing through, comparing the measured physical characteristics (biometric) with prerecorded physical characteristics (biometric data) of the person to whom the card is issued (col. 1, lines 56-66). The biometric characteristics measured are height, weight and compared to record profile of the authorized owner of the card. If the comparison certainty is below a certain level (negative match) the computer (processor) stores all data transaction (i.e. the biometric data and other data related to the card) (col. 10, lines 34-49). Fingerprint data, face data, height, and weight are physical characteristics (biometric data) that are known in the art to be used for identification. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Kinoshita's teachings to modify the combined device of Bowker and Tamori by storing the biometric data (fingerprints in this

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case) in the semiconductor memory when the matching of the biometric data (fingerprint) is negative in order to establish a historical file that shows breaches or violations of the security.

As to claim 38, refer to claim 34 rejection.

20. Claims 35, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowker et al (U.S. Patent 5,963,657) in view of Tamori (U.S. Patent 5,503,029) as applied to claims 11 and 19 above and further in view of Gokcebay (U.S. Patent 5,337,043).

As to claim 35, Neither Bowker nor Tamori discloses, further comprising a clock unit for generating a periodic clock signal and a time determining unit configured to maintain a time value according to said clock signal and identify a time value when the finger is pressed against said sensor, wherein said semiconductor memory device is further configured to store access control data, said access control data identifying when an authorized person for whom registered fingerprint data is stored is allowed to lock or unlock movement of said object, and wherein said processor is further configured such that said locking or unlocking of said object is further dependent upon said processor positively determining from a comparison between said access control data and said identified time value that said authorized person is allowed to lock or unlock movement of said object.

Gokcebay discloses a high security access control system involving credit card type keys or mechanical keys and locks as well as keyholder authentication to prevent unauthorized use of the key. A card type key (electronic, magnetic, etc.) carries encoded data which represent a personal feature of the intended keyholder assigned to that key, such as a fingerprint (a memory

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device that stores registered fingerprint code data). The data may be read by swiping it through a reader slot. The information as read is briefly stored in a memory associated with a small processor connected to the key reader. The fingerprint reader scans the fingerprint, and this scanned information is compared with the encoded information. If the actual fingerprint as read matches the fingerprint as encoded and stored on the key, the keyholder is granted access (col. 2, lines 5-64). The card type key is used for access control of a door with a lock (see Figs 1, and 3). The access is granted based on both positive matching of the fingerprint and matching of the time and date which the user may validly access the area (see Fig.8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Gokcebay's teachings to modify combined device of Bowker and Tamori, by granting access only when both the matching of the fingerprint and matching of the time and date which the user may validly access the area are positive in order to, to provide high security access control based on a personal feature (such as a fingerprint) of the intended keyholder assigned to that key and time and date which the user may validly has access, so that access rights can be adjusted or can be canceled for certain personnel (such as discharged employees) (col. 3, lines 16-42).

As to claim 39, refer to claim 35 rejection.

21. Claims 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowker et al (U.S. Patent 5,963,657) in view of Tamori (U.S. Patent 5,503,029) as applied to claims 11 and 19 above and further in view of Sasaki Mitsuyuki et al. (Japanese Patent Application No. 05-263558).

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As to claim 43, neither Bowker nor Tamori discloses, wherein said portable key unit comprises said sensor said semiconductor memory device but not said processor and not said control unit.

Sasaki discloses an IC card 1 carried by a person that makes entrance to and exit from a specified area or building, identification information comprising fingerprint identifying the user of the building is stored in memory 1a and a sensor 1d that senses the fingerprint of the user is provided to the IC card (Fig.1, Abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Sasaki's teachings to modify the combined device of Bowker and Tamori by using an IC card (portable key) comprises said sensor said semiconductor memory device in order to improve security for controlled entry and exit from certain facilities by recognizing persons entering or leaving on the basis of reading fingerprints, and realizes a high degree of security by controlling and closing of the doors of the facilities.

As to claim 44, refer to claim 43 rejection.

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 6,182,221 to HSU et al. Discloses a method and apparatus for automatically verifying the identity of a person seeking to access a protected property (such as a door) located remotely from a small hand held device such as a cellular telephone that carries a fingerprint sensor, storage memory and a matching processor.

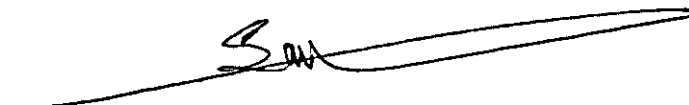
24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Samir Ahmed whose telephone number is (703) 305-9870. The examiner can normally be reached on Monday to Friday from 8:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Au, Amelia can be reached on (703)872-9314. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

SA

1/07/03



**SAMIR AHMED
PRIMARY EXAMINER**